CLAIMS

What is claimed is:

1. A method for synchronizing a measurement in a communication system, which comprises the steps of:

setting a counter to a preselected start value;

while the value in the counter is not equal to a preselected final value,

at a first connection point of a communication link, transmitting a first synchronization signal;

at a second connection point of the communication link, receiving the first synchronization signal;

at the second connection point, transmitting a second synchronization signal;

at the first connection point, receiving the second synchronization signal; and

incrementing the value in the counter;

otherwise,

transmitting a test signal at the first connection point when time equals the reception time of the last transmitted second synchronization signal at the first connection point plus a first

preselected time interval;

recording transmissions arriving at the second connection point beginning when time equals the reception time of the last transmitted first synchronization signal at the second connection point plus a second preselected time interval; and

ceasing to record transmissions arriving at the second connection point beginning when time equals the reception time of the last transmitted first synchronization signal at the second connection point plus a third preselected time interval.

2. The method as recited in claim 1, providing the first synchronization signal, second synchronization signal, and the test signal are transmitted as a series of digitized data packets.

3. The method as recited in claim 1, providing at least one of the synchronization signals has a waveform selected from the group consisting of a pseudo-random pattern and white noise.

4. The method as recited in claim 3, providing the pseudo-random waveform is generated via a maximum length sequence (MLS) algorithm.

5. The method as recited in claim 1, providing the communication system is a telephone system.

6. The method as recited in claim 1, providing signals are transmitted using voice over packet technology.

7. The method as recited in claim 6, providing the voice over packet

technology is the voice over Internet Protocol technology.

8. The method as recited in claim 1, providing at least one synchronization signal has a duration different from at least one other synchronization signal.

9. The method as recited in claim 1, providing all first synchronization signals have duration different from all other first synchronization signals.

10. The method as recited in claim 1, providing all second synchronization signals have duration different from all other second synchronization signals.

11. The method as recited in claim 1, providing all first synchronization signals have duration different from all second synchronization signals.

12. The method as recited in claim 1, providing that the counter preselected start value and the counter preselected final value are such that the number of first synchronization signals transmitted is a number selected from the group consisting of 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.

13. The method as recited in claim 1, wherein the method step transmitting the first synchronization signal further comprises the steps of:

at preselected instances within the duration of the first synchronization signal,

measuring a value of the first synchronization signal;

digitizing the measured value of the first synchronization signal;

creating a first synchronization signal data packet comprising the digitized measured value of the first synchronization signal and

transmitting the first synchronization signal data packet.

14. The method as recited in claim 1, wherein the method step transmitting the second synchronization signal further comprises the steps of:

at preselected instances within the duration of the second synchronization signal,

measuring a value of the second synchronization signal;

digitizing the measured value of the second synchronization signal;

creating a second synchronization signal data packet comprising the digitized measured value of the second synchronization signal; and

transmitting the second synchronization signal data packet.

15. The method as recited in claim 1, wherein the method step receiving the first synchronization signal further comprises the steps of:

when at least one data packet is detected at the second connection point,

receiving the data packet;

extracting a received data packet value from the received data

packet; and

converting the received data packet value to an analogue signal value.

16. The method as recited in claim 1, wherein the method step receiving the second synchronization signal further comprises the steps of:

when at least one data packet is detected at the first connection point,

receiving the data packet;

extracting a received data packet value from the received data packet; and

converting the received data packet value to an analogue signal value.